

What is claimed is:

1           1.     An apparatus comprising:

2           a digital television receiver to receive a digital television broadcast signal, the digital  
3 television broadcast signal including a data test stream having a plurality of data packets; and

4           a service level determiner to determine a service level of the digital television broadcast  
5 signal based upon a loss of data packets from the data test stream and to cause the service level  
6 to be displayed.

1           2.     The apparatus of claim 1, wherein the data test stream is an Internet Protocol (IP)  
2 based data test stream.

1           3.     The apparatus of claim 1, wherein the data test stream is an Internet Protocol (IP)  
2 based data test stream locatable on a given Packet Identifier (PID) of the digital television  
3 broadcast signal and the IP based data test stream includes sequentially numbered packets.

1           4.     The apparatus of claim 1, wherein the service level determiner measures a number  
2 of data packets of the data test stream received by the digital television receiver over a  
3 predetermined interval.

1           5.     The apparatus of claim 4, wherein the service level determiner determines a data  
2 packet loss percentage value for the data test stream by calculating a ratio of the measured

3 number of data packets received by the digital receiver and a number of data packets that should  
4 have been received by the digital receiver.

1 6. The apparatus of claim 5, wherein the service level determiner maps the data  
2 packet loss percentage value of the data test stream into a service level diagnostic.

1 7. The apparatus of claim 6, further comprising a display device to display a service  
2 level diagnostic indicator based upon the service level diagnostic to indicate the service level of  
3 the digital television broadcast signal.

1 8. The apparatus of claim 1, further comprising a display device to display a service  
2 level diagnostic indicator based upon the loss of data packets from the data test stream to indicate  
3 the service level of the digital television broadcast signal.

1 9. The apparatus of claim 8, wherein the service level diagnostic indicator is a bar  
2 shaped meter indicating a service level range from 0% to 100%.

1 10. The apparatus of claim 8, wherein the service level diagnostic indicator is updated  
2 at predetermined intervals.

1 11. The apparatus of claim 8, wherein the display device is a television.

1           12.    The apparatus of claim 1, wherein the digital television broadcast signal is  
2   communicated from a terrestrial broadcast station.

1           13.    The apparatus of claim 1, wherein the digital television broadcast signal is  
2   communicated via a satellite network.

1           14.    The apparatus of claim 1, wherein the service level determiner is implemented  
2   with a set-top box.

1           15.    A method comprising:

2           receiving a digital television broadcast signal that includes a data test stream having a  
3   plurality of data packets;

4           determining a service level of the digital television broadcast signal based upon a loss of  
5   data packets from the data test stream; and

6           displaying the service level.

1           16.    The method of claim 15, wherein the data test stream is an Internet Protocol (IP)  
2   based data test stream.

1           17.    The method of claim 15, wherein the data test stream is an Internet Protocol (IP)  
2   based data test stream locatable on a given Packet Identifier (PID) of the digital television  
3   broadcast signal and the IP based data test stream includes sequentially numbered packets.

1 18. The method of claim 15, wherein determining the service level of the digital  
2 television broadcast signal service further comprises:

3 measuring a number of data packets of the data test stream received by the digital  
4 television receiver over a predetermined interval.

1 19. The method of claim 18, wherein determining the service level of the digital  
2 television broadcast signal further comprises:

3 determining a data packet loss percentage value for the data test stream by calculating a  
4 ratio of the measured number of data packets received by the digital receiver and a number of  
5 data packets that should have been received by the digital receiver.

1 20. The method of claim 19, wherein determining the service level of the digital  
2 television broadcast signal service further comprises:

3 mapping the data packet loss percentage value of the data test stream into a service level  
4 diagnostic representative of the service level of the digital television broadcast signal.

1 21. The method of claim 20, wherein displaying the service level of the digital  
2 television broadcast signal service further comprises:

3 displaying a service level diagnostic indicator based upon the service level diagnostic to  
4 indicate the service level of the digital television broadcast signal.

1 22. The method of claim 15, wherein displaying the service level of the digital  
2 television broadcast signal service further comprises:

3 displaying a service level diagnostic indicator based upon the loss of data packets from  
4 the data test stream on a display device to indicate the service level of the digital television  
5 broadcast signal.

1 23. The method of claim 22, wherein the service level diagnostic indicator is a bar  
2 shaped meter indicating a service level range from 0% to 100%.

1 24. The method of claim 22, wherein displaying the service level of the digital  
2 television broadcast signal service further comprises:

3 updating the service level diagnostic indicator at predetermined intervals.

1 25. The method of claim 22, wherein the display device is a television.

1 26. The method of claim 15, wherein the digital television broadcast signal is  
2 communicated from a terrestrial broadcast station.

1 27. The method of claim 15, wherein the digital television broadcast signal is  
2 communicated via a satellite network.

1           28.    The method of claim 15, wherein determining the service level of the digital  
2 television broadcast signal and displaying the service level is implemented with a set-top box.

1           29.    A machine-readable medium having stored thereon instructions, which when  
2 executed by a processor, causes the processor to perform the following:

3           receiving a digital television broadcast signal that includes a data test stream having a  
4 plurality of data packets;

5           determining a service level of the digital television broadcast signal based upon a loss of  
6 data packets from the data test stream; and

7           displaying the service level.

1           30.    The machine-readable medium of claim 29, wherein the data test stream is an  
2 Internet Protocol (IP) based data test stream.

1           31.    The machine-readable medium of claim 29, wherein the data test stream is an  
2 Internet Protocol (IP) based data test stream locatable on a given Packet Identifier (PID) of the  
3 digital television broadcast signal and the IP based data test stream includes sequentially  
4 numbered packets.

1           32.    The machine-readable medium of claim 29, wherein determining the service level  
2 of the digital television broadcast signal service further comprises:

3 measuring a number of data packets of the data test stream received by the digital  
4 television receiver over a predetermined interval.

1 33. The machine-readable medium of claim 32, wherein determining the service level  
2 of the digital television broadcast signal further comprises:

3 determining a data packet loss percentage value for the data test stream by calculating a  
4 ratio of the measured number of data packets received by the digital receiver and a number of  
5 data packets that should have been received by the digital receiver.

1 34. The machine-readable medium of claim 33, wherein determining the service level  
2 of the digital television broadcast signal service further comprises:

3 mapping the data packet loss percentage value of the data test stream into a service level  
4 diagnostic representative of the service level of the digital television broadcast signal.

1 35. The machine-readable medium of claim 34, wherein displaying the service level  
2 of the digital television broadcast signal service further comprises:

3 displaying a service level diagnostic indicator based upon the service level diagnostic to  
4 indicate the service level of the digital television broadcast signal.

1 36. The machine-readable medium of claim 29, wherein displaying the service level  
2 of the digital television broadcast signal service further comprises:

3 displaying a service level diagnostic indicator based upon the loss of data packets from  
4 the data test stream on a display device to indicate the service level of the digital television  
5 broadcast signal.

1 37. The machine-readable medium of claim 36, wherein the service level diagnostic  
2 indicator is a bar shaped meter indicating a service level range from 0% to 100%.

1 38. The machine-readable medium of claim 36, wherein displaying the service level  
2 of the digital television broadcast signal service further comprises:

3 updating the service level diagnostic indicator at predetermined intervals.

1 39. The machine-readable medium of claim 36, wherein the display device is a  
2 television.

1 40. The machine-readable medium of claim 29, wherein the digital television  
2 broadcast signal is communicated from a terrestrial broadcast station.

1 41. The machine-readable medium of claim 29, wherein the digital television  
2 broadcast signal is communicated via a satellite network.

1 42. The machine-readable medium of claim 29, wherein determining the service level  
2 of the digital television broadcast signal and displaying the service level is implemented with a  
3 set-top box.



1           43.    A system comprising:

2           a set-top box including,

3                   a digital television receiver to receive a digital television broadcast signal, the  
4           digital television broadcast signal including a data test stream having a plurality of data  
5           packets; and

6                   a service level determiner to determine a service level of the digital television  
7           broadcast signal based upon a loss of data packets from the data test stream and to cause  
8           the service level to be displayed; and

9           a display device to display the digital television broadcast signal and the service level.

1           44.    The system of claim 43, wherein the data test stream is an Internet Protocol (IP)  
2           based data test stream.

1           45.    The system of claim 43, wherein the data test stream is an Internet Protocol (IP)  
2           based data test stream locatable on a given Packet Identifier (PID) of the digital television  
3           broadcast signal and the IP based data test stream includes sequentially numbered packets.

1           46.    The system of claim 43, wherein the service level determiner measures a number  
2           of data packets of the data test stream received by the digital television receiver over a  
3           predetermined interval.

1           47.    The system of claim 46, wherein the service level determiner determines a data  
2 packet loss percentage value for the data test stream by calculating a ratio of the measured  
3 number of data packets received by the digital receiver and a number of data packets that should  
4 be received by the digital receiver.

1           48.    The system of claim 47, wherein the service level determiner maps the data  
2 packet loss percentage value of the data test stream into a service level diagnostic.

1           49.    The system of claim 48, wherein the display device displays a service level  
2 diagnostic indicator based upon the service level diagnostic to indicate the service level of the  
3 digital television broadcast signal.

1           50.    The system of claim 43, wherein the display device displays a service level  
2 diagnostic indicator based upon the loss of data packets from the data test stream to indicate the  
3 service level of the digital television broadcast signal.

1           51.    The system of claim 50, wherein the service level diagnostic indicator is a bar  
2 shaped meter indicating a service level range from 0% to 100%.

1           52.    The system of claim 50, wherein the service level diagnostic indicator is updated  
2 at predetermined intervals.

